

The Effect of E-Learning Based on Schoology and Student Interest to Metacognitive Thinking Skill of Vocational High School Students in Archival Subject

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ABSTRACT

The aim of this study is to know the influence of e-learning and student interest to Metacognitive thinking skill of Vocational High School Pasundan Subang's students in academic year 2019/2020. The research method used is experimentation with Anova Two Way design. The results showed that: (1) There are significant influences in which the learning models of e-learning based on schoology and conventional learning models influence the level of student's metacognitive thinking skills, evidenced by the f-calculate value of 7.719 with Sig 0.007 < 0.05 (2) there is no significant influence on the level of learning interest students have on student's metacognitive thinking skills, evidenced by the value of Fcalculate of 1.357 with a sig 0.249 > 0.05 and (3) there is no significant influence on the interaction of learning models and interest in the student's metacognitive thinking skills in the archival subjects. It is evidenced by the value of Fcount of 0.217 with SIG 0.643 > 0.05. Therefore, a teacher should have the method of how to increase student's interest in learning by using the existing learning model so that it can have many ways to improve the ability of student's metacognitive thinkingskill. so that students Capable of evaluating strengths and self-weakness, knowing the benefits of science, applying knowledge to solve problems, and being able to implement strategies in solving problems.

Keywords: E-learning, schoology, learning interest, and student's metacognitif

INTRODUCTION

The standard of learning process at vocational high school aims to improve the effectiveness of the learning process conducted by the teacher/instructor so that it can develop the potential, initiative, and independence of students in accordance with student's interests, talents, and psychological development. In line with government regulations number 34 in 2018 explained that the learning process is organized by activity based interactively, inspiring, fun, challenging, and motivating learners. In addition, the learning process also provides space for the development of twenty one century skills namely creative,

innovative, critical thinking, problem solving, collaborative, and communicative toprepare of the era of Revolution 4.0 and the future. This Era is also known as disruptive innovation phenomenon which emphasizes on digital economic pattern, artificial intelligence, big data, and robotic.

In McKinsey's Research & Co (2016). The challenge of vocational high school in the Industrial Revolution 4.0 are (1) the adaptation of technology and the role of the Internet as a major supporter of the industry, giving rise to disruption in various as dirty, including vocational education, (2) The occurrence of industrial automation trends and Data exchange in manufacturing

technology which includes cloud computing, cyber-physical system and Internet of Things (IoT) technology, demanding urgent adjustment of expertise competency with technological advancement, (3) approximately 800 million Workers around the world will lose jobs because of robots and technology. (Kaushik Das, et al, 2016).

One of the problems faced by the education in Indonesia, especially vocational high school is the low quality of education in both the process of running and the results of the education itself. The problem of learning so far shows that there are still a lot of learning that uses the memorization system and has no learning meaning so that the learning process is felt not to empower students through their metacognitive abilities. (Shen, C., & Liu, 2011), students who do not have metacognitive skills can not assess, monitor and solve his own problems (Garrett, A. Et all, 2006). Students who do not have adequate medical skills marked with students do not know how to identify and understand learning information and can not use the learning guides in their study activities (Garrett, J. & Born, et All 2007). Students with little metacognitive skills will look passive in their learning activities, unable to manage their studies independently, may even fail in the results of their studies (Shen, C., & Liu, 2011).

The learning process at vocational highschool, especially in the Department of Corporate Governance Automation, which is currently referring to the electronic media archives system and digital, which is very needed in the Archives management, of course participants are required to develop the ability to HOTS (High Order Thinking Skill) and packaged in a lesson archives. Archival is the basic ability to be mastered by the students of the Office of Governance Automation. The survey results proved that the subject is still considered difficult by the students, especially in understanding the handling of archives. At the moment the process of learning the archives is still using

conventional methods or called lecture methods, although there is practice but the students are still stuck to the reference book. In conventional learning, learners listen to the teacher in front of the class and then give students an exercise or questions. After that, ask students to practice the question. The methods commonly used in conventional learning are lecture methods, question and answer methods, discussion methods, and assignment methods. The learning resources used during the learning process refers to the modules that are owned by the teacher, so the learning process becomes tedious.

Aside from the learning model, the learning and teaching process is cannot be separated from ICT (information and communication technology) role. The use of technology in the learning process encourages the creation of a learning model that spawned a new concept in an IT-based learning or known as E-Learning. According to Rosenberg (2000), the development of education to e-learning is an alternative in improving the quality standards of education, in improving the standard of education quality, because e-learning is a use of internet technology in Delivery of learning with wide reach and based on three criteria: (1) e-learning is a network with the ability to renew, store, distribute and share teaching materials or information, (2) delivery to users Through a computer using standard Internet technology, (3) focus on the most extensive views on the learning behind traditional learning paradigm (Akhmad Faturrohman, 2011)

E-Learning is a learning medium that utilizes electronic media as a tool in the process of teaching and learning activities to improve. E-learning can help teachers in teaching and learning activities, as E-learning can be used at any time even if the lesson hours are up, and can be used without having to face the teacher with learners.

Schoology is one of several Learning Management systems (LMS) that provide facilities to teachers and students to

interact with each other, exchanging information online. With Schoology It is expected that students can download lesson materials, presentation slides, video tutorials, games, work on the quiz, exams, discussions, and task collection provided by the teacher. Schoology can also be used via smartphones.

In addition to the learning model, many things can influence the success of learning one of which is a learning interest. The interest to learn refers to the way students think about themselves in connection with learning process activities (Sheldon, et al, 2012). In addition, with interest, it will be seen achievement during the study that will bring students to the desire to continue learning. The existence of a success in learning or satisfaction in learning an individual can have a strong influence on sustainable learning (Luis et al., 2015). Based on the explanation above, the author intends to do a study using the title "The effect of E-Learning based on Schoology and student interest to the ability of metacognitive students in the subjects of archival in class X automation of office governance in Vocational High School of Pasundan Subang.

LITERATURE REVIEW

Metacognitive Skills

According to Anderson & Krathwohl (2001); Flavell (1979), quoted in Bowler's Journal, N.D. (2011) that metacognitive knowledge has three basic components: (1) Knowledge of one's self, (2) knowledge of the nature of cognitive duties in relation to its own cognitive abilities, and (3) knowledge of how and when effective use of cognitive strategies to accomplish cognition tasks. Such knowledge, when used in search information, can help users to solve complex information problems.

According to Bogdan, 2000; Flavell, 1999; Metcalfe, 2000, Metacognitive can be defined as "Think about thinking", but this process also involves the knowledge of how to reflect and analyze the thinking, how to

draw conclusions from the analysis, and how to put what has been learned into practice. While Piaget (1972) says that metacognitive as decentralized thinking: people know something about his own thought process and others, and people can pay attention to and change their thoughts. (Downing, et all, 2011) According to Nurdin (2007), that the metacognitive strategy in understanding the subject matter includes: (1) rehearsal strategy, i.e. underlining and creating marginal notes, (2) elaboration strategy, i.e. making summaries/summaries, and (3) organizational strategy, which is creating concept maps.

Based on the explanation above, it can be concluded that through a metacognitive strategy students can accomplish certain tasks and provide easy study of the material, memorize, understand, then stored in memory. Thus with Metacognitive skills students can make decisions, solve problems, and combine previous knowledge relate to the knowledge they have been learned.

Student Learning Interests

According to Dewey (1913), interests are an important factor in school learning. No student is completely deprived of interest and no student has any interest that is distributed impartially, when they are interested in a topic or their activity will be involved wholeheartedly, Dewey urges teachers to find What a very important student interest find out what appeals to students is an important part of the school, on the other hand, "making things interesting" is artificial and often does not work. (Garner et al., 2015).

Whereas according to the Slameto (2013:180) in (Nurma Tambunan, 2016) suggests that the most effective way to generate interest in a new subject is to use the interests of existing students, for example students interest in Drawing, then before teaching the teacher can attract student's attention by displaying the

pictures then little by little directed to the material.

From some of these opinions it can be concluded that student's learning interest can be seen from how the students are doing the activities they follow and are very pleased, their interest in participating actively, the learning process and the attention they provide. Thus, the interest indicators used as reference of this study are the indicators of interest as outlined earlier that include their favorite, interest, attention and involvement in the activities of the great benefits, and the desire to use it.

E-Learning Concept

In everyday life, people are faced with the development and innovations of information technology in education, according to Sa'ud. U. S (2011) That innovation in the field of education is the effort to make changes with the aim to obtain a good thing in the field of education. These changes are: easier to find learning resources, more options to use and utilize ICT, the increasing role of media and multimedia in learning activities, more flexible learning time, computer-based instruction (CBI), Computer Assisted instruction (CAI), the use of media/video television, mobile learning, e-learning, Learning management system, curriculum on-line, e-Library, learning model with individual learning system.

According to Jaya Kumar C. Newspaper (Rusman, 2012), e-learning is a learning that uses electronic networks (LAN, WAN, or Internet) to convey the content of learning, interaction, or guidance. Some are interpreting e-learning as a form of distance education that is done through internet media. While Dong defines e-learning as an asynchronous learning activity (the form of computer control protocol time in which certain operations begin after receiving indications (signals) that the previous operation has been completed) through the computer electronic devices that acquire the learning materials according to their needs.

E-Learning based Media Schoology

According to Farmington: 2014, Schoology is a social network for K-12 schools and institutes of higher education focused on co-operation, allowing users to create, manage, and share academic content, such as access to teachers and students to The presence, task collection, training and learning resources that can be accessed anytime and anywhere as well as giving parents access to monitor the learning progress of students at school. (Almuntaqo Zain, 2014)

Schoology is also easily accessible from mobile devices. This app can be easily found in the app market for Apple iOS and Android phones. Mobile tablet devices, like iPad and Android can also run this app. Completion of a large writing task will be a barrier to the device, but learners can check the task's view, navigate the course content, review their values, view the calendar of the upcoming task, and communicate with the instructor. Schoology is an online learning system that allows educators to manage learning, engage students, and share materials.

MATERIAL & METHOD

The design of the research used is factorial design. This factorial design is an experimental model that uses more than one treatment or more than one independent variable. This Model is capable of analyzing two or more treatment or independent variables. (Ghozali, 2008:37) A simple Model used from this factorial design uses two treatment completely randomized factorial design. The design used in this study is called a 2 x 2 factorial design, of which 2 is the number of levels of the variable moderation of students learning and 2 is the number of levels of treatment or learning models (e-Learning learning based on schoology and Conventional with espository method).

DISCUSSION

Based on the results of the study it can be noted that student's metacognitive

thinking skills can be influenced by learning models and learning interests of students. In detail based on research findings and hypothesis testing results as follows:

Influence of Model Learning on the students' metacognitive thinking ability

In the study it was acquired that the ability of metacognitive thinking skill of students who use learning models of E-Learning based media schoology is higher than in students who use conventional learning models. This conclusion is supported by the acquisition of descriptive statistics that show the average ability to think metacognitive students who use learning models of E-learning based on the media schoology of 60.4242 while the average ability to think metacognitive students who use conventional learning models of 53.50. This distinction is also reinforced with Anova results that show the value of sig 0.007 7.719 0.05 < These results reinforce the assumption that different learning models will give students the ability to think through different archival subjects.

The results of this study were supported also by the research results of Indah Wiharti, (2017), Tugiyono Aminoto and Hairul Pathoni, (2014), that E-Learning can improve learning outcomes and motivation, the result of Tuti Nuryati Research (2018) The ability to think metacognitive include: 1) declarative knowledge, 2) knowledge procedural, 3) conditional knowledge, it requires a proper learning strategy to be able to form metacognitively. This is in accordance with Pulmones's opinion (in Ervin Nafilah and Utiya Azizah (2015), stating that in a constructivistic environment it allows students to connect previous knowledge with newly constructed knowledge because students work in small group settings. From the research of Ervin Nafilah and Utiya Azizah, (2015) stated that there is an influence between learning model and metacognitive thinking.

The influence of student learning interests in the student's metcognitive thinking ability

The study found that student's learning interest rates did not affect student's metacognitive thinking abilities. This is derived from the result of $F_0 = 1.357$ with a sig value of $0.249 > 0.05$, meaning H_0 accepted and this rejected H_a means that the learning interest rate of students does not affect the ability of a student's metacognitive subject to archival subjects.

This phenomenon suggests that there is high learning interest and low learning interest in students not heading towards the emergence of students' metacognitive thinking skills in the sense that the ability of metacognitive thinking is a change in behavior patterns that lead to a quality direction, not formed by the student's interest, according to the theory of John Flavell, defines a metacognitive as a student consciousness, consideration, control of the process and cognition strategy of theirself. Metakognitive has an important role in mathematics learning and in solving mathematical problems. In relation to this, Metacognitive are student awareness (to), consideration (consideration), and control or monitoring of the strategy and cognitive processes themselves. (Bowler, 2011)

Thus the learning interest of students grew from a circumstance or condition where students found what was interesting to them, what was important to them. While thinking metacognitive arise because of the awareness of the self (awareness), students know the advantages and weaknesses of theirself, consideration, and control or monitoring of their strategies and cognitive processes themselves. And this research is done at an early level which is indeed the process of consciousness and self-weakness is not too visible.

The influence of learning Model interactions and interests learn to student's metacognitive thinking skills

Based on the results of the hypothetical test conducted on the interaction of learning models and the

interest of learning in the ability to think students are found a finding that the interaction of learning models and learning interests Significantly has no effect on student's metacognitive thinking abilities. The research is also based on the results of $F_0 = 0.217$ with a sig value of $0.643 > 0.05$, meaning H_0 accepted and this rejected H_a means that there is no influence of learning model interaction and the level of learning interest of students to the ability of metakognitive Students.

The findings are in line with the research results of the Prihatini, (2017) stating that there is an insignificant influence on methods of learning and interest in learning to the student's creative thinking skills. Evi Nurjanah (2016) There is no interaction between learning models and learning interest in learning achievements. Also in line with Gani's research results, (2015) concluded that there was no interaction between learning models with interest in student perception and student learning outcomes. The learning Model chosen by the teacher will have a big effect on the level of achievement of learning objectives, which is the ability of metacognitive thinking and level of interest is not in the ability to think students and interactions both apparently not also give a significant influence.

CONCLUSION

After the research and analysis of data on "the influence of E-Learning based on Schoology and student interest to the ability of metacognitive students in the class X. In this study acquired that the ability of metacognitive thinking students using E-Learning models based on the media of Schoology is higher than those using conventional learning models. This can be seen from the average value of students who use the e-learning learning model for 60.4242 while the average students' ability to think using conventional learning models is 53,50. This difference is also reinforced with Anova results that show the value of sig $0.007 < 0.05$, with the price of fcalculate

7.719 this means H_0 rejected. These results reinforce the assumption that different learning models will give students the ability to think through different, especially in archival subjects.

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